

Clinical Guidelines

VENTRICULAR SEPTAL DEFECT

SETTING	South West England and South Wales
GUIDELINE FOR	Cardiology teams in South West England and South Wales hospitals
PATIENT GROUP	Adult patients with congenital heart disease

GUIDANCE

Follow-up:

Small VSD (native or residual, normal LV, normal PAP, asymptomatic) – 3-5 years

Small VSD with haemodynamic effect or larger VSD - yearly

Post surgical closure (with no residual abnormality) – 5 years

Post device closure – regular f/u during first 2 years, then 2-5 yearly depending on result

Associated lesions:

- valvar or subvalvar pulmonary stenosis
- double-chambered RV
- usually isolated but a common component of complex CHD, e.g. (eg, Fallot, TGA)
- left-sided obstructive lesions (e.g. subaortic stenosis and coarctation)
- progressive aortic regurgitation due to cusp prolapse through the defect

Inheritance:

- occasionally familial
- 4% maternal inheritance

Long-term complications:

- aortic regurgitation (5%, especially if sub-arterial VSD)
- tricuspid regurgitation
- left ventricular dysfunction
- PH
- subpulmonary stenosis, usually due to DCRV
- discrete subaortic stenosis
- patch leaks or residual VSDs (seldom require reoperation)
- AF if LA dilatation from chronic volume overload
- complete heart block early or late after surgical repair
- ventricular arrhythmias uncommon unless late repair
- endocarditis

At each visit:

History:

- usually none
- palpitations
- dyspnoea

Exam:	systolic murmur at the left lower sternal border can be VSD or RVOTO early diastolic murmur at LSE if AR
ECG:	normal unless Eisenmenger's or LV dilatation
Echo:	residual shunting Location, number and size of any residual defect LA and LV size Left ventricular function aortic valve prolapse (of RCC or NCC) and/or regurgitation RV or LV outflow obstruction tricuspid regurgitation estimation of RV systolic pressure from TR jet (if high, excluded RVOT obstruction)
Further investigations:	
CXR:	not routine normal if small VSD
CPET:	to assess functional capacity and chronotropic competence if bi (tri) fascicular block post repair
Holter:	periodic if bi (tri) fascicular block post repair
TOE:	most useful to assess VSD/AR
Catheter:	for quantification of shunting, assessment of PAP and PVR/reversibility if suspected PH.
EP study:	for refractory atrial arrhythmias.
MRI:	useful for assessment of anatomy of RVOT obstruction for LV volumes and to estimate Qp/Qs
Drugs:	if LV dysfunction
Pregnancy:	no contra-indications in uncomplicated VSD contraindicated in Eisenmenger's
Contraception:	no limitations
Endocarditis:	antibiotic prophylaxis before high-risk dental work if prosthetic valve, previous endocarditis, residual defects at the site of or adjacent to the site of prosthetic material and for 6 months following VSD closure
Discuss if:	<ul style="list-style-type: none"> left to right shunt with left heart volume overload and no PH. If PH present, closure still considered if left to right shunt ($Qp:Qs > 1.5$) greater than mild aortic regurgitation

- subaortic stenosis
- previous endocarditis
- significant right ventricular outflow tract obstruction (cath gradient or mean echo gradient > 50 mmHg)
- development of double chambered RV

RELATED DOCUMENTS	Regional Referral Guidance for Adult Patients with Congenital Heart Disease Regional Referral Pathway for Cardiac Disease in Pregnancy
REFERENCES	<p>Baumgartner H, De Backer J, Babu-Narayan SV, Budts W, Chessa M, Diller GP, Lung B, Kluin J, Lang IM, Meijboom F, Moons P. 2020 ESC Guidelines for the management of adult congenital heart disease. Eur Heart J. 2020.</p> <p>Stout et al. 2018 AHA/ACC Guideline for the Management of Adults With Congenital Heart Disease. Journal of the American College of Cardiology Aug 2018, 25255; DOI: 10.1016/j.jacc.2018.08.1029</p>
AUTHORISING BODY	Cardiac Executive Committee
SAFETY	No safety issues
QUERIES	<p>Bristol: Contact any of the following via UHBristol switchboard – 0117 923 0000</p> <p>Dr S Curtis, Consultant Cardiologist Dr G Szantho, Consultant Cardiologist Dr M Turner, Consultant Cardiologist Dr R Bedair, Consultant Cardiologist</p> <p>Cardiff: Specialist ACHD Team – Cardiff via UHWales switchboard - 029 2074 7747</p> <p>Dr N Masani Dr H Wallis Dr DG Wilson ACHD Co-ordinator Elizabeth Corris – 02920 743 892 ACHD Specialist Nurse Team Bethan Shiers / Kindre Morgan 02920 744 580</p> <p>South Wales: Lead Local Health Board Cardiologists:</p> <p>Abertawe Bro Morgannwg LHB Dr H Wallis 01639 862049 Dr C Weston & Dr M Heatley 01792 205666 ext 30836 Aneurin Bevan LHB Dr P Campbell 01633 238863 Cwm Taf LH Dr C Williams 01443 443642 Hywel Dda LHB Dr H Wallis 01639 862049</p>